

WHAT IS CLAIMED IS:

1. An optical head comprising:
 - a laser light source;
 - a collimator lens for converting a beam emitted from said laser light source into parallel beam;
 - a lens frame holding said collimator lens;
 - a beam shaping device for shaping the parallel beam passing through said collimator lens;
 - an objective lens for converging the parallel beam passing through said beam shaping device on an optical recording medium formed with a track; and
 - a photodetector for detecting a reflected light or transmitted light from said optical recording medium,

wherein said lens frame is designed to hold said collimator lens in such a manner that a straight line extending in a direction of the parallel beam having the largest ratio of the diameter of the parallel beam outgoing from said beam shaping device to the diameter of the parallel beam incoming into said beam shaping device at an entrance surface is located on the same plane together with a straight line extending in a direction along the displacement in a radial direction of said collimator lens.

2. The optical head as defined in claim 1, wherein:

said beam shaping device is designed to shape the parallel beam having an elliptic cross-section into the parallel beam having a circular cross-section,

wherein said lens frame is designed to hold said collimator lens in such a manner that a straight line extending in the minor axis of the elliptic cross-section of the parallel beam incoming into said beam shaping device at an entrance surface is located on the same plane together with a straight line extending in a direction along the displacement in said radial direction of said collimator lens.

3. The optical head as defined in claim 1, wherein said collimator lens is adhesively fixed to said lens frame in at least one of the positions of the outer peripheral surface of said collimator lens intersected by a straight line which passes through the optical axis of said collimator lens and extends in said radial direction.

4. The optical head as defined in claim 3, wherein said collimator lens is adhesively fixed to said lens frame in two positions of the outer peripheral surface of said collimator lens opposed to one another along said radial direction.

5. The optical head as defined in claim 1, which includes an outer frame for holding said lens frame, said outer frame having an inner peripheral surface formed with a cross-sectionally V-shaped portion, said outer frame being arranged such that the apex of said V-shaped portion is located on a straight line which crosses the optical axis of said collimator lens at right angle and extends in said radial direction,

wherein said lens frame is in contact with the inner peripheral surface of said outer frame at two position located on both sides of said apex of said V-shaped portion and symmetrically with respect to said straight line,

wherein said outer frame is provided with a presser member for pressing said lens frame in said radial direction.

6. The optical head as defined in claim 5, wherein said lens frame is made of a material having a linear expansion coefficient substantial equal to that of said collimator lens.

7. The optical head as defined in claim 5, wherein the inner peripheral surface of said V-shaped portion has an apex angle in the range of 90 to 150 degrees.

8. The optical head as defined in claim 4, wherein said adhesive for fixing said collimator lens to said lens frame is applied in each of said two positions at an amount in the range of 0.05 to 1.1 % of the weight of said collimator lens.

9. An optical recording medium drive comprising:

an optical head which includes a laser light source,a collimator lens for converting a beam emitted from said laser light source into parallel beam, a lens frame holding said collimator lens,a beam shaping device for shaping the parallel beam passing through said collimator lens,an objective lens for converging the parallel beam passing through said beam shaping device on an optical recording medium formed with a track, and a photodetector for detecting a reflected light or transmitted light from said optical recording medium;

a driving mechanism for driving said optical recording medium; and

a servo mechanism for controlling the position of said objective lens of said optical head,

wherein said lens frame is designed to hold said collimator lens in such a manner that a straight line extending in a direction of the parallel beam having the largest ratio of the diameter of the parallel beam outgoing from said beam shaping device to the diameter of the parallel beam incoming into said beam shaping device at an entrance surface is located on the same plane together with a straight line extending in a direction along the displacement in a radial direction of said collimator lens.